

Title (en)
IMPROVED PROCESS OF MAKING BIODERIVED PROPYLENE GLYCOL

Title (de)
VERBESSERTES VERFAHREN ZUR HERSTELLUNG VON BIOLOGISCH GEWONNENEM PROPYLENGLYKOL

Title (fr)
PROCÉDÉ AMÉLIORÉ DE PRODUCTION DE PROPYLÈNEGLYCOL BIODÉRIVÉ

Publication
EP 3134377 B1 20220316 (EN)

Application
EP 15783659 A 20150409

Priority
• US 201461982608 P 20140422
• US 2015025092 W 20150409

Abstract (en)
[origin: WO2015164088A1] An improved process for making bioderived propylene glycol from a feed composition including at least one of lactic acid, glycerol, a five carbon sugar, a five carbon sugar alcohol, a six carbon sugar and a six carbon sugar alcohol, wherein production of four carbon and higher diols is reduced by adding base after the initiation of the reaction. In preferred embodiments, the process pH and other process conditions are initially established at targeted values for obtaining the highest conversion for a given catalyst consistent with the production of substantially no pentanediol byproducts in the product mixture, and base is added thereafter to control the process pH proximate to the initially targeted value.

IPC 8 full level
C07C 29/74 (2006.01); **C07C 29/152** (2006.01); **C07C 29/153** (2006.01); **C07C 31/20** (2006.01)

CPC (source: EP RU US)
C07C 29/132 (2013.01 - RU); **C07C 29/1512** (2013.01 - EP US); **C07C 29/60** (2013.01 - US); **Y02P 20/52** (2015.11 - EP)

C-Set (source: EP US)
C07C 29/1512 + C07C 31/205

Citation (opposition)
Opponent : UPM Kymmene Oyj
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• WO 2008051540 A2 20080502 - ARCHER DANIELS MIDLAND CO [US], et al
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• LAHR DANIEL G., SHANKS BRENT H.: "Kinetic Analysis of the Hydrogenolysis of Lower Polyhydric Alcohols: Glycerol to Glycols", INDUSTRIAL & ENGINEERING CHEMISTRY RESEARCH, AMERICAN CHEMICAL SOCIETY, vol. 42, no. 22, 1 October 2003 (2003-10-01), pages 5467 - 5472, XP093011111, ISSN: 0888-5885, DOI: 10.1021/ie030468l
• MONTASSIER C., GIRAUD D., BARBIER J., BOITIAUX J.P.: "Mise au point - Transformation de polyols par catalyse hétérogène en phase liquide sur les métaux", BULLETIN DE LA SOCIÉTÉ CHIMIQUE DE FRANCE, no. 2, 1 January 1989 (1989-01-01), pages 148 - 155, XP093147215

Designated contracting state (EPC)
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DOCDB simple family (publication)
WO 2015164088 A1 20151029; BR 112016024278 A2 20170815; CA 2945927 A1 20151029; CA 2945927 C 20220726; CN 106232562 A 20161214; CN 106232562 B 20190115; EP 3134377 A1 20170301; EP 3134377 A4 20171108; EP 3134377 B1 20220316; EP 4086239 A1 20221109; MX 2016013674 A 20170123; RU 2016142448 A 20180522; RU 2016142448 A3 20181015; RU 2691407 C2 20190613; US 2017036975 A1 20170209; US 9938215 B2 20180410

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